

## AL8 Illuminated Pushbuttons &amp; Pilot Lights (Assembled)

## Illuminated Pushbuttons

Style	Contact	Part Numbers		Pilot Light Part Number
		Momentary	Maintained	
Round 	SPDT	AL8M-M11-Ⓞ	AL8M-A11-Ⓞ	AL8M-P1-Ⓞ
Square 	SPDT	AL8Q-M11-Ⓞ	AL8Q-A11-Ⓞ	AL8Q-P1-Ⓞ
Rectangular 	SPDT	AL8H-M11-Ⓞ	AL8H-A11-Ⓞ	AL8H-P1-Ⓞ

## Ⓞ LED/Lens Color Codes

Color	Code
Amber	A
Green	G
Red	R
White	W
Yellow	Y

- In place of Ⓞ, specify lens color code from table on the right.
- A replaceable LED lamp is included with the operator.
- Because the LED lamp does not contain an internal current limiting resistor, an external resistor must be added. For recommended values, see table below.
- For accessories, see page 449.
- For dimensions, see page 450.

## Replacement LEDs

Lens Color	LED Lamp	Part Number
Amber	Amber	LAD-SA
Green	Green	LAD-SG
Red	Red	LAD-SR
White	Yellow*	LAD-SY
Yellow	Yellow	LAD-SY

\* White units use a white lens and a yellow LED.

## LED Voltage and Recommended Current Limiting Resistor

Voltage	External Resistor
5V DC	150Ω, 1/2W
6V DC	200Ω, 1/2W
12V DC	510Ω, 3/4W
24V DC	1.1kΩ, 3/4W

## LED Lamp Ratings: LED Specifications

LED Lamp	Forward Current $I_f$	Forward Voltage (Nominal) $V_f$	Reverse Voltage $V_r$	Operating Voltage & External Current Limiting Resistor (Recommended Value)
Amber	20mA	2.2V	4V	5V DC: 150Ω, 1/2w 6V DC: 200Ω, 1/2w 12V DC: 510Ω, 3/4w 24V DC: 1.1kΩ, 3/4w
Green	20mA	2.1V	4V	
Red	20mA	1.7V	4V	
Yellow	20mA	2.2V	4V	

When LED lamps are used at voltages other than those stated above, external resistor value, R, is determined by the following formula:  $R = (\text{Operating Voltage} - V_f) / I_f$

Switches &amp; Pilot Lights

Display Lights

Relays &amp; Sockets

Timers

Terminal Blocks

Circuit Breakers